Poster advertising the 1948 *Superman* series. *Photo courtesy Getty Images*

Supermensch

Superman et al were invented amid feverish eugenic speculation: what does the superhero craze say about our own times?

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On 18 April 1938, a new kind of hero flew out of the pages of *Action Comics*. The hero was Superman, and the action strip set out the story of his extraterrestrial origins, arrival on Earth, and acquisition of superhuman powers. *Action Comics* was itself an example of a fairly new kind of literary genre. Comics were cheap, ephemeral and brightly coloured: the original pulp fiction, aimed at a market of young male readers. Their pages were filled with illustrated action strips, relating the world-saving or buccaneering exploits of a variety of adventurers. On his first outing, Superman shared the comic's pages with boxers, cowboys, detectives and vigilantes. This was never meant to be literature that lasted. In some ways, the most amazing thing about Superman was that he did last, spawning an eponymous comic of his own, devoted to

his feats and achievements, as well as a succession of rivals, as both DC Comics and their commercial competitors such as Marvel rushed to create new superheroes.

Over time, the full range of Superman's superpowers gradually expanded. The original 'Man of Steel' was simply superhumanly strong but, before long, he'd acquired bullet-proof skin, X-ray vision and an ability to fly. He also acquired serious competition, with the first appearance in 1939 of Batman (originally 'the Bat-Man') in another National Allied Publications outlet, *Detective Comics* (later DC Comics). Like Superman, Batman was so successful that he soon earned an eponymous publication of his own. Where Superman's powers had their origins in the interaction of his extraterrestrial origins with his Earthly upbringing, Batman's superpowers were purely technological. Bruce Wayne, the man behind Batman's mask, was wealthy enough to fund the making of the technological gadgetry that made his alter ego virtually indestructible. Another character, the Flash, who first appeared in the inaugural issue of *Flash Comics* at the end of 1939, acquired his superpowers by exposure to heavy-water vapours.

Superman and his contemporaries launched a fascination with technological superism that continues today. Here were individuals whose bodies and their capacities were somehow warped through being exposed to technology (the Flash); augmented by technology (Batman); or transported from one environment to another by technology (Superman). There is an underlying narrative in all their stories that treats technology as a source of powers that would traditionally have been described as divine. But, like Prometheus' theft of fire from the gods, this has often been seen as a double-edged desire, seductive yet dangerous for humans.

Superheroes were invented during an era of eugenic speculation, when dreams of *Übermenschen* – machine-men, aerialists and space-bound conquistadors – tantalised philosophers and beguiled fascists. But, in recent years, the superhero has returned to peak popularity in franchises such as *X-Men*, *The Avengers* and a run of *Batman* movies. What does our ongoing infatuation with technology's transformational impact on individual bodies tell us about the modern world? The question is complicated, since the imagined capacity of technology to transfigure and augment our bodies – to turn us into superhumans – is not only a feature of popular fiction. Increasingly, it is a key feature of technological futures currently being generated. Google Glass might have been a flop, but it is a sign of things to come.

The idea that we might somehow become more human through technology has moved back and forth between fact and fiction for well over a century now, and some of its roots are considerably older. To understand why contemporary superism takes the form it does, we need to recognise that history, and hear what it says about how we now think of technology's potentials and limitations. One way of reading the Greek myth of Daedalus and Icarus is as a cautionary tale about the perils of using human craft to transcend human limitations. Imprisoned along with his son, Icarus, in the Labyrinth by king Minos of Crete, Daedalus built wings that allowed them to fly to safety. Icarus, however, flew too close to the Sun, melting the wax that held the

feathers to the wings, and fell to his death. It was a fable about hubris and the consequences of human over-reach.

Greek philosophers and their medieval successors had their own concerns about technologies of the kind produced by Daedalus. They were technologies that mimicked rather than transposed the divine property of creation. They were deceptive and bordered on impiety. It meant that technology and magic became difficult to distinguish, and the claim to creative power through some secret art could appear problematic. This was one reason why the boasts of alchemists seemed dangerous to some thinkers since, regardless of whether or not they really could turn base metals into gold, the fact that they insisted on being able to do so could be understood as laying claim to divine creative powers.

During the 19th century, the relationship between technology and divinity took a new turn. In his *Letters on Natural Magic* (1832), the Scottish natural philosopher David Brewster suggested that technological know-how was an integral aspect of ancient (and less ancient) priestcraft. This was how idolaters had fooled their congregations into believing in false gods. He reminded his readers that the Roman writer Pliny, when describing the temple of Hercules at Tyre, had mentioned a sacred seat 'from which the gods easily rose'. There were other classical descriptions of gods and goddesses who 'exhibited themselves to mortals', and 'ancient magicians' who 'caused the gods to appear among the vapours disengaged from fire'. These were all products of a duplicitous priesthood's superior knowledge of the technology of light and shadow. Yet they could just as easily be recast as a charlatan's game. Thus, the staunch Presbyterian Brewster could insist that Catholic 'bishops and pontiffs themselves wielded the magician's wand over the diadem of kings and emperors'. Technology could confer divinity, but only by deception.

Brewster wasn't the only Victorian with a stake in putting modern technology into a history of deceptive magic. Inventor-entrepreneurs of the 19th-century were often cast (and often by themselves) as latter-day Prosperos, with the important qualification that they really could do what they claimed. Discussions of the newly invented electric telegraph were often couched this way, for example. Upon seeing Charles Wheatstone and William Fothergill Cooke – the telegraph's inventors – put their instrument to work, Edward Copleston, bishop of Llandaff, rhapsodised how it 'exceeds even the feats of pretended magic and the wildest fictions of the East'. This was a technology that promised 'a thousand times more than what all the preternatural powers which men have dreamt of and wished to obtain were ever imagined capable of doing'. Telegraphy, telephony and wireless telegraphy (radio) were touted as extending the reach of human sensation, offering individuals the power to manipulate invisible forces and act instantaneously at a distance.

> Not only could technology mimic the supernatural – technology *was* supernatural

The telegraph's example suggests how, in the 19th century, technology's promise became more and more entangled with the future of the human body. New technologies offered our bodies new powers. H G Wells imagined powered flight in just this way, explicitly evoking divine imagery to fantasise about the experience of aerial battle. In his novel *The World Set Free* (1914), he wrote:

> Men rode upon the whirlwind that night and slew and fell like archangels. The sky rained heroes upon the astonished earth. Surely the last fights of mankind were the best. What was the heavy pounding of your Homeric swordsmen, what was the creaking charge of chariots, beside this swift rush, this crash, this giddy triumph, this headlong swoop to death?

The most striking thing about this rendition of war in the air, written on the eve of the Great War's mechanised battles, is the emphasis on how the technology of powered flight offered a way to deify the individual. Aeroplanes could turn airmen into supermen. In Wells's description, they almost sound like Nietzschean *Übermenschen*.

Nikola Tesla, the late-19th-century's ultimate inventor-entrepreneur, had equally interesting things to say about how future technology would enhance humanity. Tesla was famous for surrounding himself on stage with technological spectacle, his audiences marvelling at the sight of electricity, for example, 'passing through the body of the lecturer to a flaming phosphorescent sword, as it were, formed by a two-foot glass tube'. In his article 'The Problem of Increasing Human Energy' (1900) in *The Century Magazine*, Tesla speculated about the art of 'telautomatics', as he called it. This was the blending of human and machine, giving human operators the capacity to control machinery at a distance through wireless communication. Telautomatics would make war bloodless by removing the body from the scene of battle, while allowing the human mind to control the action. Tesla returned to this theme in 1919 in a series of autobiographical articles commissioned by Hugo Gernsback for his magazine *Electrical Experimenter*.

Newspapers loved this kind of speculation, and Tesla was particularly adept at exploiting its appeal. 'Nikola Tesla Shows How Men of the Future May Become as Gods,' screamed a headline in *The New York Herald* on 30 December 1900. The article featured Tesla musing how his inventions would transform the future of humanity: starting with an image of a newborn child as an animated machine, and concluding with humans harnessing the Sun's energy and building machines that were self-acting. Then humans really would have 'god-like power' – they 'could create any kind of material substance, of any size and shape, seemingly out of nothing'; they 'could make all perceptible substance revert to its primary form, lose itself forever in the Universe'. It would add up to 'the grandest feat which might be performed by man, the most consequential, his greatest achievement'. There was something viscerally embodied about these takes on technology, and it's easy to see how they set the scene for comic-book superheroes and their technologically enhanced bodies.

By the beginning of the 20th century, a new and distinctive view of what technology meant was emerging from the world of scientific spectacle and futuristic imagining in

both fact and fiction. And it revolved around the question of what the future technologies might do to humans and their bodies. Technology seemed to offer a new way of being modern and a vision of transforming human bodies to become even more human. Tesla (and he was not the only one) speculated that electricity <https://aeon.co/essays/the-victorians-bequeathed-us-their-idea-of-an-electric-future> might be used to make humans more intelligent. Humans would be faster, stronger, cleverer. Their bodies would be immune to disease; they would live longer. A new parable of technological and human progress was in the making, with better humans and better machines marching forward hand in hand. Eugenics offered a similar tale about how humans might transform themselves into something superior. Both Wells and Tesla, it's worth noting, had eugenic enthusiasms.

The notion that technological progress and its impact on the body might deliver something like divine power was becoming a staple of popular science fiction. Not only could technology mimic the supernatural – technology *was* supernatural. The American author Robert Heinlein played with this idea in his deeply racist novel *Sixth Column*, originally serialised in 1941 in the science fiction publisher John W Campbell's *Astounding Science Fiction* magazine, just as comic strip superheroes were gaining popularity. In Heinlein's story, a group of American scientists survive the conquest of the United States by 'PanAsians', and set about using their superior technology to win back the country. They establish a new religion, with temples across the US, and recruit an underground army, arming them with weapons based on a new technology that appears nothing short of miraculous. In the original short story by Campbell, on which Heinlein's novel was based, the PanAsians are convinced that their enemies really do wield divine powers.

Early versions of Superman were more morally ambiguous than the clean-cut character that eventually appeared. In 1933, Superman's creators Jerry Siegel and Joe Shuster published a short story in the magazine *Science Fiction* titled 'The Reign of the Superman'. It featured a character whose superhuman powers were acquired as part of a scientific experiment and who proceeded to use those powers for his own advantage, until they wore off. The plot is reminiscent of Robert Louis Stevenson's *Strange Case of Dr Jekyll and Mr Hyde* (1886), or Wells's *The Invisible Man* (1897). Both were cautionary tales about the dangers of technological meddling with human nature, and the enhanced humans they featured were no superheroes. In the 1930s, however, with war in Europe looming, there was no room for such moral ambiguity. Superman and his fellow superheroes had to be on the side of the angels. Superman, through his alter ego Clark Kent, was meant to embody the virtues of small-town America as much as the enhanced humanity of the Man of Steel. It was his archenemy, Lex Luthor, who represented compromised science.

During the war years, Superman and other superheroes were fully engaged in the fight against fascism. They represented American moral and technological certitude, and the certainty of the American Century. Their superism was an expression of the superiority of the American Dream. The superheroes that emerged in the 1960s, on the other hand, represented a different and less absolute brand of superism. In 1961, Stan Lee and Jack Kirby created the Fantastic Four, a quartet of Marvel superheroes

whose powers were the result of exposure to cosmic rays during a space mission. Their success spawned a number of other heroes in quick succession during the first half of the decade. Both the Hulk and Spider-Man, introduced by Marvel in 1962, were also products of experiments with radioactivity gone wrong. The moral ambiguity of Marvel's superheroes (it would be difficult to describe the Hulk or Spider-Man, for example, as paragons of virtue in the mould of Superman) mirrored a growing cultural ambiguity about the moral status of science; as the Cold War got colder and the nuclear arms race more vicious, it's no accident that radioactivity features so large in the origin stories of these superheroes.

It's interesting that one of Marvel's superheroes – Thor – really was a god, albeit a very fallen one. Fallen gods were reappearing in Heinlein's science fiction around this time too. In *Methuselah's Children*, originally serialised in 1941 in *Astounding Science Fiction*, and expanded into a full novel in 1958, Heinlein introduced the long-lived Howard Families (the products of eugenic breeding) who, forced to flee Earth to escape persecution, arrived on a planet apparently inhabited by a humanoid race at an approximately similar level of technological sophistication. It was only when introduced to the Jockaira's gods that they realised that the planet's dominant species was in fact a highly technologically sophisticated people for whom the humanoids were the equivalent of domestic animals. They were so advanced as to be gods from a human perspective. In *Time Enough for Love*, published in 1973, the novel's chief protagonist Lazarus Long, describes returning to the planet many millennia later and defeating the Jockaira's masters. The implication was that, by then, human technological culture would be sufficiently godlike itself.

> Superheroes bring salvation precisely because they work outside state agencies

Heinlein's example is pertinent here for revealing something important about the political culture of contemporary superism. By the 1970s, Heinlein's politics were explicitly libertarian, and much of the underlying culture of superheroes shared a libertarian commitment to varying degrees. Superman or Batman might have put their superpowers at the service of civic authorities in Metropolis or Gotham City, but they themselves were not part of those authorities. Their power came from their capacity to work outside the state. Heinlein's later novels increasingly celebrated the independent agency of the individual. The collective was a hinderance, rather than a help. This is the ethos of contemporary superhero culture as well. In some respects – and this is a key difference between the original generation of superheroes and their contemporary successors – collectives are part of the problem to which superheroes are the answer. State agencies are helpless, incompetent or blinkered at best; corrupt and malign at their worst. Superheroes bring salvation precisely because they work outside such structures. And they can act like that precisely because their technologically enhanced bodies give them the freedom of exemption.

Looking at it this way, the popularity of superhero culture among aficionados of new technological entrepreneurship seems obvious. It's a culture that celebrates individual

agency at the expense of the collective. Things get done by charismatic individuals rather than by the state. This is certainly the case for contemporary political culture on both Left and Right.

Our stories about where inventiveness comes from, and how the future will be made, overwhelmingly focus on the power of the individual. Such stories appeal to the desire for human perfection (and redemption?) recast in technological language, and they were integral to the way that late-19th-century inventor-entrepreneurs, such as Tesla or Thomas Edison, presented themselves to their publics. They're still very much part of the narrative of technological entrepreneurism now. Just as Tesla wanted to be seen as a kind of superhero of invention, unbound by conventional restraints, so too do his contemporary admirers at the cutting edge of the tech world. Superheroes resonate within that culture precisely because they embody in themselves the perception of technology as something that belongs to powerful and iconoclastic individuals. They epitomise the idea that technological culture is driven by outsiders. The character of Iron Man makes this very clear: after all, he really is a tech entrepreneur, his superpowers the product of the enhanced body armour he wears.

In 2002, Michael Shermer – editor of *The Skeptic* magazine – paraphrased Arthur C Clarke's dictum that any sufficiently advanced technology would be indistinguishable from magic when he said that any sufficiently advanced extraterrestrial civilisation would be indistinguishable from God. Writing in *Scientific American*, Sherman was trying to cut God down to size, but his remark also captures the important point that aspirations to divinity are built into the contemporary understanding of technology and what it can deliver: 'Men of the future may become as gods,' as that 1900 headline put it. That's the work that superheroes do for tech culture now. They're the shape of things to come.

But the superheroes also demonstrate what a peculiar kind of divinity this is – shorn of the spirituality that is supposed to define our relationship to the divine. The divine power that the technological future offers devotees is purely material. And the doors of that technological heaven will be opened only for the elect who have the material means to enter.

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